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notes on the AGRICULTURAL ECONOMIES OF THE FAR EAST.

I. Northeast Asia

Foreign Agricultural Service

UNITED STATES DEPARTMENT OF AGRICULTURE

CONTENTS

This is the first in a series of 5 publications dealing with the agricultural economies of the Far Eastern area. These 5 publications deal with the following sub-regions.

I Northeast Asia
II South Asia
III Southeast Asia
IV Oceania
V Asian Communist Countries

Prepared by Far East Analysis Branch

NOTES ON THE AGRICULTURAL ECONOMIES OF THE FAR EAST

I NORTHEAST ASIA

HONG KONG

POPULATION

Total - 2,919,000 estimated civilian population at the end of 1959; less than 1 percent is non-Chinese.

Rural - Estimated to be about 10 percent, excluding fishermen.

Annual rate of growth - In 1959 the population increased by 113,000 (4 percent). Of this number, 84,329 (3 percent) was due to an excess of registered births over registered deaths, and 28,181 (1 percent) to recorded immigration. It is estimated that more than 1 million refugees have entered Hong Kong since the end of World War II.

Density - 7,465 per square miles in the area, but most of the nearly 3 million people crowd themselves into 12 square miles of urban areas.

ECONOMIC SETTING

Prior to World War II, Hong Kong thrived mostly as a great trading center. Entrepot trade provided the base for the economy. Changes associated with the Communist rise to power on the Mainland have forced the colony to turn increasingly from entrepot trade to industrialization.

In 1959, 70 percent of the colony's exports consisted of items made in Hong Kong and only 30 percent of re-exports. Converting to an industrial economy has led to a continuous boom in the industrial and building trades. The cost of living has inched up but the colony has adhered to a balanced budget, and sound money so that inflation has not caused serious domestic and export market problems. Wages are low by Western standards but are rising. Investment funds are plentiful enough for business ventures that promise high and fast returns. Political uncertainty may discourage long-term investments. A scarcity of water and suitable building sites also hamper industrial development.

The colony generally runs an unfavorable trade balance in exchange of visible goods with the deficits amply covered from such sources as banking insurance, and tourism.

PHYSICAL CHARACTERISTICS

Location - Just within the Tropics along the southeast coast of China.

Area - 391 square miles. Of this area, 35.5 square miles was ceded to the British. The remaining 355 square miles (lying back of the Kowloon Peninsula on the Mainland) was leased to the British in 1898 for a period of 99 years.

Agricultural area - 13.1 percent (32,750 acres) classified as arable land.

Topography - Rough, steep mountains predominate. Wild grass and scrub lands, rocky, precipitious hillsides, woodlands, and eroded lands make up four-fifths of the total area, leaving only about one-fifth for urban developments and cropland.

Climate - Hong Kong's climate is subtropical. Winters are cool and dry. Summers are hot and humid. The average annual rainfall is 85 inches, of which three-fourth falls during the May-September months.

PRODUCTION

Average size of farms - Less than 2 acres.

Land tenure - Leasehold from the British Crown.

Agricultural self-sufficiency - The colony is producing about 60 percent of the vegetables consumed. Domestic production of rice, the colony's main food staple, amounts to less than a 2-month supply. Pigs and chickens are the major livestock and poultry enterprises. Limited agricultural resources rule out self-sufficiency in agriculture. The colony will have to continue importing a large part of its food and fiber needs.

Principal crops: Acreage, 1959

Crop	Acreage
	Acres
Rice	22,120
Vegetables	3,905
Sweetpotatoes	2,732

Livestock: Number, 1959

Type	Number
	Thousands
Cattle (incl. buffalo)	19
Hogs	150
Chickens	2,000
Ducks and geese	353

Agricultural technology - A comprehensive program of research and education directed toward improving agricultural technology is going forward under the government's programs of research and technical assistance.

AGRICULTURAL TRADE

Annual value of agricultural imports - Approximately $299 million in 1959.

Major agricultural import items - Rice, live animals--chiefly for food--fruits and vegetables, meat and meat preparations, tobacco, raw cotton, vegetable oils, and dairy products.

Table 1.-- Hong Kong: Total agricultural trade, 1959

Agricultural imports	Value	Agricultural exports	Value
	Million dollars		Million dollars
Rice	41.9	Fruits and vegetables	23.4
Live animals for food	39.1	Cereals and preparations	6.0
Fruits and vegetables	43.5	Meat and preps	1.1
Cotton	36.3	Dairy products	1.9
Sugar and preparations	10.3	Sugar and preps	6.0
Eggs	10.8	Coffee, tea, cocoa, and spices	3.0
Cereals and preps	13.4	Misc. food preps	5.6
Meat and preps	14.8	Oilseeds and nut kernels	3.2
Veg. oils	9.9	Textile fibers	8.7
Dairy products	19.1	Animal veg. crude materials	
Oilseeds, nuts, kernels	6.5	inedible, nes	18.5
Food preparations	6.7	Animal and veg. oils and fats	
Wool and other animal hair	8.3	derivatives	2.8
Tobacco, unmanufactured	4.6	Total above	80.2
Other agricultural	33.6	Other, mostly nonagricultural	493.4
Total above	298.8	Grand total	573.6
Nonagricultural	567.4		
Grand total	866.2		

Table 2.--U.S.-Hong Kong agricultural trade: Value of imports and exports, 1959

U.S. exports to Hong Kong	Value	U.S. imports from Hong Kong	Value
	Million dollars		Million dollars
Cotton, excluding linters	16.2	Vegetables and preps	1.0
Chickens	2.1	Prunes, plums, and preps	.5
Tobacco, unmanufactured	2.9	Poultry	.3
Ginseng	1.9	Tea	.2
Oranges and tangerines,		Other fruits and preps	.2
fresh	2.6	Other agricultural	.5
Other fruit and preps	1.2	Total agricultural	2.7
Vegetables and preps	.0	Nonagricultural	93.3
Wheat grain	.8	Grand total	96.0
Food for relief or charity	2.6		
Other agricultural	4.0		
Total agricultural	35.3		
Nonagricultural	58.7		
Grand total	94.0		

POPULATION

Total - 92,300,000 (Jan. 1959).

Rate of growth - 1 percent. Current annual increase of 900,000 is far below the annual increases of 1,400,000 experienced during the early fifties. This unprecedented decline gives Japan one of the lowest rates of natural increase in the world.

Farm population - 36.3 million in 1955, or 41 percent of the total. The labor force engaged in agriculture is declining slowly (to 15.5 million in 1958) as a result of rapid industrialization. The proportion of the total labor force so engaged has declined from 50 percent in 1949 to 36 percent in 1958.

Density - 620 per square mile; among the highest in the world.

ECONOMIC SETTING

Gross national product - $28.2 billion in 1958.

Agricultural share of national income - 14 percent.

Estimated average annual rate of growth - 7 percent; the rate of growth attained by the Japanese economy during the postwar period has been exceeded only by West Germany and the Soviet Union.

Per capita GNP - $312 in 1958; highest in the Far East.

Gold and foreign exchange holdings - In 1959, gold and foreign exchange exceeded a billion dollars. Japan is the first country in Asia to acquire foreign exchange holdings of this extent.

Trade as percent of GNP - 20-25 percent annually.

Economic assistance - Japan's economic and technical assistance to other countries, particularly those in Southeast Asia, is now of considerable magnitude. During the immediate postwar period, American economic assistance was largely responsible for Japan's rapid recovery.

Trade balance - Imports usually exceed exports; however, the trade deficit is usually more than offset by the unusally large exports of services.

PHYSICAL CHARACTERISTICS

Location - Situated in the northeast Pacific in the Temperate Zone.

Area - 142,700 square miles, or 91.3 million acres (slightly smaller than California).

Agricultural area - 13 million acres, or 15 percent of the land area.

Arable land per capita - 0.2 acre per capita (in the United States, over 2 acres).

Topography - The Japanese island chain, which parallels the Asian mainland, is a giant and partly submerged mountain range with exceedingly rough topography. Essentially, the islands consist of mountainous centers fringed by coastal alluvial plains. These rugged, steeply sloping mountainous centers encompass numerous interior basins and narrow valleys. Rivers are short and generally unnavigable with steep profiles and limited reservoir capacities. Numerous promonotories and indentations result in a lengthy 16,000-mile coastline which includes several fine ports.

Climate - Japan's insular position and latitudinal variance strongly influence climate. The island chain's location and latitudinal range, of a thousand miles, approximates that of the eastern United States. This results in a climate similar to that of the Maine-Georgia area, particularly in regard to temperature.

Although precipitation is spread throughout the year, the peak occurs during the growing season. Annual precipitation ranges from 40 to 80 inches with the heaviest rainfall in the south.

Latitudinal temperature variance is greater in winter than in summer. Summers are hot, humid, and consequently oppressive. The frost-free season ranges from 120 days in central Hokkaido to 250 days along the southeastern coastal region of the islands. Central Hokkaido experiences the lowest annual mean temperature of 41.4°F., while the warmer parts of Kyushu have an annual mean of 62°.

Soils - Unlike many soils of volcanic origin, Japan's soils are inherently infertile. Most soils have developed under conditions of forest vegetation and heavy rainfall. In much of the country soil erosion has kept pace with soil formation with the result that soils are shallow and poorly developed. Heavy rainfall causes leaching and a consequent fertility decline.

Although soils are acidic and not notably fertile, they respond well to lime and fertilizer applications and the skillful management of the Japanese farmer.

AGRICULTURAL PRODUCTION

Number of farms - nearly 6 million.

Average size of farms - 2.5 acres.

Land tenure - Prior to World War II, tenancy was widespread and accompanied by exhorbitant rental rates which threatened any security of tenure. Shortly after the cessation of World War II hostilities, the Supreme Allied Command issued a directive which stated that measures should be taken to insure "that those who till the soil shall have a more equal opportunity to share in the fruits of their labor". Legislation designed to accomplish this was enacted in the Land Reform Law of 1947.

This law has enabled the number of farmers owning land to increase until today 88 percent own half or more of the land they cultivate. For the remaining minority who continue to lease land, safeguards have been established to limit rental rates and prevent unwarranted eviction. Much of the increase in Japanese agricultural productivity has been attributed to the successful execution of the land reform program.

Agricultural self-sufficiency - The postwar loss of overseas territories and accompanying repatriation of 6 million Japanese citizens have been partly responsible for Japan's present food deficit status. Domestic production satisfies 80 percent of food and fiber requirements. Present government policy aims at remaining 80 percent self-sufficient in food production even though population is continuing to expand.

Table 3.- Principal crops: Acreage and production in Japan, 1959

Crop	Acreage	Production
	1,000 acres	1,000 m.t.
Rice	8,125	12,423
Barley	2,206	2,308
Wheat	1,486	1,412
Sweetpotatoes	905	6,502
Soybeans	837	437
White potatoes	495	3,183
Rapeseed	465	261
Adzuki beans	357	157
Kidney beans	253	144
Millet	157	93
Other pulses	120	58
Buckwheat	118	40
Peanuts	106	59

Livestock - The direct utilization nature of the Japanese agricultural economy relegates livestock to a relatively unimportant position as a source of food. Livestock derive their principal importance from their role as draft animals. Livestock are fed little grain or concentrates, and thus provide an efficient means of converting waste forage products into draft power, manure, and meat.

Water supply and irrigation - Irrigation is largely limited to paddy land, as natural rainfall normally provides sufficient water for other crops. The irrigated area, therefore, closely approximates the 8 million acres planted to rice.

Rivers are the principal source of irrigation water, with small reservoirs and sometimes wells serving as secondary sources. Several centuries of rice cultivation have abetted the development of an extensive and intricate system of irrigation canals to convey water from the rivers to the oftentimes distant paddy fields.

Table 4.- Livestock: Number in Japan, 1958

Type	Number
	Million
Draft and beef animals	2.50
Dairy animals	.356
Swine	.833
Sheep	.733
Chickens	41.300

Multiple cropping - Planted acreage is 50 percent greater than the arable land area. Multiple cropping is concentrated in the southern and eastern part of the islands as the growing season in the northern regions is too short. Numerous innovations, such as the use of plant beds, the development of earlier maturing varieties, and the widespread use of polyethylene for early spring frost protection, are aiding in the expansion of the multiple-cropped area.

Mechanization - In contrast with Western agricultural mechanization where the major purpose has been to conserve labor, the primary object of mechanization in the land-scarce Japanese agriculture has been to increase yields. Insecticides and pesticides are applied by means of small one-man portable units. Grain is threshed with small electric or gasoline powered stationary threshing units. Many small 2-4 horsepower tractors are currently being used, particularly for cultivation. Draft animals are still depended upon for the heavier field operations, such as plowing.

Ratio of input factors - The heavy pressure of population upon the land and widespread underemployment result in the liberal use of labor. Limited land resources and the necessity of obtaining high yields require large capital imputs, particularly in the form of fertilizer.

Level of productivity - Production per unit of land is probably as high in Japan as anywhere in the world. In terms of labor input, productivity compares much less favorably particularly when contrasted with Western agriculture.

Index of agricultural production (1952-54 = 100) - In 1959, agricultural production was 136. Modest population increases during this period enabled per capita production to increase to 127.

Agricultural institutions - Cooperatives, research stations, agricultural colleges, and an agricultural extension service patterned after that of the United States are the dominant agricultural institutions.

All Japanese farmers are members of one or more marketing, purchasing, or credit cooperatives. More recently, farmers have organized cooperatives for purposes of land reclamation and irrigation development.

Rice research stations were established during the last century. More recently these have broadened their area of research to encompass all phases of agriculture. The extension service is a relatively recent institutional development.

AGRICULTURAL TRADE (1958)

Value of agricultural exports - $70 million to $80 million annually.

Agricultural share of total exports - less than 5 percent.

Per capita agricultural exports - less than $1 per year.

Value of agricultural imports - $1.2 billion to $1.3 billion.

Agricultural share of total imports - (40-50 percent). The large agricultural share of total imports consists principally of industrial crops, such as cotton, wool, rubber, and soybeans.

Per capita agricultural imports - usually about $15 per year.

Table 5. - Japan: Total agricultural trade, 1958

Agricultural exports	Value	Agricultural imports	Value
	Million dollars		Million dollars
Silk, raw	22.5	Raw cotton	340.3
Mandarine oranges	18.4	Wool	189.8
Seasoning, monosodium glutamate	8.1	Wheat	154.2
Soybean oil	4.8	Sugar	120.6
Tea	4.6	Soybeans	90.8
Mushrooms, dried (shiitake)	3.3	Rice	72.5
Tobacco, unmanuf	3.1	Rubber	72.2
Beer	1.4	Oilseeds, excl. soybeans	43.8
Potatoes	1.4	Barley	41.4
Red pepper	1.2	Corn	40.0
Sugar, refined	1.1	Hides and skins	26.0
Ginseng	.9	Beef tallow	24.6
Bulbs, etc	.8	Hard fibers	13.2
Total above	71.6	Pulses	11.0
Other, mostly nonagricultural	2,805.0	Total above	1,240.4
Total all commodities	2,876.6	Other, mostly nonagric.	1,792.7
		Total all commodities	3,033.1

Table 6.-- U.S.-Japan agricultural trade: Value of imports and exports, 1958

U.S. exports to Japan	Value	U.S. imports from Japan	Value
	Million dollars		Million dollars
Cotton, excluding linters	117.4	Silk, raw	14.5
Cotton linters	.7	Mandarin oranges, canned	2.2
Soybeans	68.8	Tea	1.0
Wheat, grain	67.6	Canned vegetables	.7
Barley, grain	21.2	Ajinomoto and other monosodium prep	.7
Tallow, inedible	18.8	Drugs, herbs, roots, etc	.6
Corn, grain	18.3	Mushrooms, dried	.6
Hides and skins	13.3	Capsicum or red pepper	.5
Tobacco, unmanuf	10.4	Bulbs, roots and corms	.5
Dairy products	4.8	Frog legs, fr., chilled, etc	.5
Wheat flour	3.2	Other vegetables and prep.	.4
Other oilseeds	3.0	Other agricultural	2.8
Wheat feeds	2.8	Total agricultural	25.0
Cottonseed oil, refined	1.0	Nonagricultural	649.0
Lemons and limes, fresh	.6	Total all commodities	674.0
Other agricultural	9.2		
Total agricultural	361.1		
Nonagricultural	468.4		
Total all commodities	829.5		

Major agricultural export items - Silk, mandarine oranges, tea, and dried mushrooms. Silk and mandarine oranges account for over one-half of all agricultural exports.

Major agricultural import items - Cotton, wool, wheat, soybeans, sugar, rice, and rubber.

Principal agricultural markets - The United States takes about one-third of Japan's agricultural exports.

Principal agricultural suppliers - United States, Australia, Canada. In recent years the United States has supplied about a third of all agricultural imports.

Trade with Bloc countries - In May of 1958, Japan broke off trade relations with Mainland China. An existing trade agreement with the Soviet Union provides for the exchange of Soviet raw materials for Japanese industrial products. This amounts to a few million dollars per year.

Role of P. L. 480 - Shipments of surplus agricultural commodities valued at $135 million have been shipped to Japan since the enactment of P. L. 480 in 1954. Wheat and cotton accounted for over two-thirds of the total, while the remainder consisted of smaller quantities of barley, corn, rice, and tobacco.

FOOD CONSUMPTION

Per capita daily caloric consumption - 2,300; exceeded only by Malaya and Taiwan in the Far East.

Staple foods - Rice, wheat, and barley.

Nature of diets - In spite of the relatively high caloric intake level, diets are preponderantly starchy and hence nutritionally inadequate. Grains principally rice, provide 70 percent of all calories consumed. Other starches and fats and oils account for 22.6 percent, with an additional3.6 percent arising from the consumption of fruits and vegetables. The remaining 4.3 percent of calories consumed are derived from fish and livestock products.

Trends in consumption pattern - World War II, with the accompanying disruption of trade and production, has caused some lasting changes in the consumption pattern. Prior to the war, rice consumption averaged 340 pounds per capita per year. The postwar rice shortage, which was partially offset by heavy wheat imports, resulted in a per capita rice consumption of only 242 pounds. During the years that rice was in short supply, the Japanese developed a taste for wheat. In recent years, per capita wheat consumption has averaged 88 pounds per year as compared with 37 pounds before the war.

AGRICULTURAL TRADE POLICY

Agricultural development - The government has extensively exploited means for expanding agricultural production. This has included a vast program of agricultural research and subsidies granted to farmers for the procurement of production supplies.

Agricultural policy - The government supports farm prices for several commodities, particularly for food grains. It also has the authority to support prices of white potatoes, sweetpotatoes, soybeans, rapeseed, and beet sugar. Rice is the most strongly controlled of crops with both the government procurement price and selling price to consumers being fixed.

Trade policy - Japan's trade policy has had a strong effect upon its agricultural imports. Japan has a very high population-land ratio and its trade policy is predicated upon the necessity to export Japanese labor in the form of manufactured goods in exchange for raw materials. This policy has resulted in numerous bilateral trade agreements during the postwar period.

POLITICAL SETTING

Type of government - A new constitution adopted on November 3, 1946, provided for a democratic form of government which combined features of both the American and British systems.

Political history - The strongly unified, centuries-old Japanese empire was severely isolationist until a treaty, ratified in 1854, paved the way for U. S. - Japanese trade.

POPULATION

Total - 22.5 million (1958).

Rural - 13.8 million (1958).

Annual rate of growth - 2.1 percent.

Density - 608 per square mile; reflects the heavy pressure of population upon the land.

ECONOMIC SETTING

Total gross national product (1958 prices) - $2.23 billion (1958).

Agricultural share of GNP - 40 percent (1958); includes forestry and fisheries.

Estimated average annual growth - 5 percent; reflects growth of both the agricultural and industrial sectors.

GNP per capita (1958 prices) - $99 (1958).

Gold and foreign exchange holdings - $146 million (1958); rising steadily since 1950.

Total trade as percent of GNP - 18 percent (1958).

Trade balance - Chronic deficit; $362 million (1958).

Economic assistance - Continued assistance, mostly U. S.-financed, has had a stabilizing effect on the Korean economy. During the past several years, this U. S. aid administered by the International Cooperation Administration, has aggregated over a billion dollars. Approximately 65 percent of this amount was allocated for direct commodity imports. The remainder of the U.S. and some United Nations Korean Relief Agency funds were used for economic development projects, largely in the fields of transportation, power, and mineral development.

PHYSICAL CHARACTERISTICS

Location - The Republic of Korea occupies the entire southern portion of the Korean peninsula.

Area - 37,000 square miles - 24 million acres.

Agricultural area - 8,000 square miles - 5 million acres.

Arable land per capita - 0.2 acre (in United States over 2 acres).

Topography - South Korea is largely mountainous but the eastern part has some lowland areas and a relatively small amount of coastal plain. Most of the rivers and the more fertile land are located in the west.

Climate - Moderately cold and dry winters and hot, humid summers are characteristic of the South Korean climate. Temperature extremes range from 10°F. in the winter to a maximum of 100°F. in the summer. The average temperature in summer is 80° F. Most of the annual rainfall of 40 to 55 inches falls during the summer rainy season.

Soil types - Lithosols, which cover the mountainous and hilly terrain, comprise 80 percent of the country's area. The alluvial soils of the valleys and coastal plains support most of the country's agriculture.

AGRICULTURAL PRODUCTION

Number of farms - 2.2 million (1958).

Average size of farms - 2.3 acres (1958).

Land tenure - Under the land reform program enacted in 1949 about 1 million acres were redistributed. It was expected that leased land would be reduced to 10 percent of the total cultivated area.

Agricultural self-sufficiency - Since the war, South Korea has been a food deficit country because of the disruption of the agricultural economy and the rapid population growth.

Principal crops - Rice is the most important cereal crop. Cotton, tobacco, and cocoons (mulberry leaves) are the major commercial crops.

Table 7.--Principal crops: Acreage and production in Korea, 1958

Crop	Acreage	Production
	1,000 acres	1,000 m. t.
Rice	2,700	2,399
Barley	2,000	915
Pulses	800	22
Vegetables	500	1,112
Wheat	300	120
Cotton	300	7

Livestock industry - The production of livestock is the principal source of income for less than 1 percent of all farm households. Animals are valued more as a source of draft power and manure than as a source of food.

Table 8.--Livestock: Number in Korea, 1958

Type	Number
	Million
Draft cattle	0.96
Hogs	1.23
Rabbits	.25
Chickens	9.35
Ducks	.23

Double cropping - The ratio of planted area to total cultivated area in South Korea is about 1.55 to 1. This ratio is highest in the south and west, and lowest in the north.

Mechanization - The intensive application of hand labor reflects the simplicity of farm equipment of the South Korean farmers. Tools consist of hoes, spades, small wooden plows and harrows, and hand sickles for harvesting.

Index of agricultural production (1952-54 = 100) - The 1959 agricultural production index was 130, while per capita agricultural production index was only 116.

Agricultural institutions - There are Provincial Institutes of Agriculture in all nine provinces, with an average of four extension workers in each gun (county). Agricultural credit is extended by the Agricultural Bank.

FOOD CONSUMPTION

Daily per capita calorie consumption - 1,975, low even for the Far East.

Staple foods - Rice and other cereal grains.

Nature of the diet - Cereal grains, principally rice, supply over two-thirds of the calories consumed. Fish provide much of the protein in the Korean diet.

AGRICULTURAL TRADE (1958)

Value of agricultural exports - $2.4 million.

Agricultural share of total exports - 14 percent.

Per capita agricultural exports - $0.10 per year.

Value of agricultural imports - $123.9 million annually.

Agricultural share of total imports - 33 percent.

Per capita agricultural imports - $5.51 per year.

Major agricultural export items - Raw silk, ginseng, and hog bristles.

Major agricultural import items - Food grains, cotton, sugar, and wool. These items account for over one-half of all agricultural imports.

Principal agricultural markets - United States, Japan, Belgium, and the United Kingdom.

Principal agricultural suppliers - United States, Japan, W. Germany, and Italy.

Table 9.--South Korea: Total agricultural trade, 1958

Agricultural exports	Value	Agricultural imports	Value
	Million dollars		Million dollars
Silk, raw	0.55	Cotton, raw	31.69
Bristles	.37	Wheat and spelt, unmilled	26.37
Ginseng	.21	Barley, unmilled	18.46
Animal bones	.14	Wool	9.15
Hides, skins, and fur skins	.13	Sugar, raw	6.83
Fruit, fresh	.10	Rubber, natural	4.46
Other agricultural	.86	Molasses	3.19
Total agricultural	2.36	Other cereals and cereal preps	2.72
Nonagricultural	14.09	Beef tallow	2.03
Total all commodities	16.45	Milk, dried	1.79
		Wheat flour	1.78
		Grain sorghum	1.67
		Lard	1.07
		Other agricultural	12.70
		Total agricultural	123.91
		Nonagricultural	254.25
		Total all commodities	378.16

The Bank of Korea Monthly Statistical Review.

Trade with Bloc countries - None.

Role of Public Law 480 - A total of $145 million worth of U. S. surplus agricultural commodities has been programmed under Title I, as of December 31, 1959. Wheat has accounted for over a third of the total, while barley, rice and cotton have made up much of the remainder. Additional quantities of commodities valued at $95 million have been authorized for distribution by volunteer agencies under Title III.

Table 10.--U.S.-Korea agricultural trade: Value of imports and exports, 1958

U.S. exports to Korea	Value	U. S. imports from Korea	Value
	Million dollars		Million dollars
Cotton, excluding linters	32.5	Silk, raw	0.6
Wheat	29.1	Bristles, sorted, bunched, etc	.2
Barley	13.1	Total agricultural	.8
Soybeans	6.3	Nonagricultural	1.6
Wheat flour	2.7	Total all commodities	2.4
Grain sorghums	2.3		
Tallow, inedible	1.6		
Other fats and oils	2.4		
Corn	1.4		
Corn starch	1.1		
Food for relief or charity	14.8		
Other agricultural	3.5		
Total agricultural	110.8		
Nonagricultural	105.1		
Total all commodities	215.9		

AGRICULTURAL AND TRADE POLICY

The Grain Act of 1950 authorizes the Korean Government to regulate the supply, distribution, and price of principal food grains through collection and control of part of the food produced and imported.

POLITICAL SETTING

Type of government - The constitution, patterned after that of the United States, centers authority in a president and establishes a system of checks and balances among the executive, legislative, and judicial branches of the government.

Political history - Korea became a republic in 1948 after a long period of Japanese domination.

POPULATION

Total - 10.9 million in 1959; 86 percent are Taiwanese with the remainder being Mainland Chinese.

Rural - 60 percent engaged in agriculture (includes forestry and fishing).

Annual rate of growth - 3.4 percent. This gives Taiwan one of the higher rates of natural increase in the world.

Density - 780 persons per square mile.

ECONOMIC SETTING

Gross national product - $1.05 billion (1957).

Per capita GNP - $100 (1957).

Agricultural share of GNP - 32 percent in 1957. This includes forestry and fishing. Agriculture and associated industries form the basis of the economy.

Estimated average annual rate of growth - 5 percent in recent years.

Gold and foreign exchange holdings - $111 million (1958) (Has not varied greatly in recent years).

Trade as percent of GNP - Total volume of trade approaches 40 percent of GNP. This unusually high proportion makes Taiwan very dependent upon trade.

Balance of payments - In spite of Taiwan's unprecedented economic growth and consequent large volume of exports, particularly of agricultural commodities, a chronic balance of payments deficit persists. This is principally attributable to a necessarily heavy defense spending and, also, to a lesser extent, to the population influx from the mainland. These combined factors have seriously taxed the islands economic resources. The annual balance of payments deficit, ranging from $77 million to $118 million during the 1953-57 period, has been largely made up by U. S. aid.

Economic assistance - An important source of financial assistance consists of local currencies generated by the sale of U.S. surplus agricultural commodities. A portion of this local currency is used to finance development projects undertaken by the Joint Commission of Rural Reconstruction. The JCRR is a cooperative technical assistance organization established in 1948

by the Governments of the Republic of China and the United States of America to formulate and carry out a program of rural reconstruction.

PHYSICAL CHARACTERISTICS

Location - Subtropical; 90 miles off coast of Mainland China.

Area - 14,000 square miles, or 8.96 million acres.

Agricultural area - 26 percent of total, or 2.33 million acres.

Arable land per capita - 0.2 acre; among lowest in world.

Topography - Nearly two-thirds of the north-south elongated island is covered by a series of rugged mountain ridges which separates the eastern and western coastal plains. The broad and fertile western coastal plain contains most of the agriculture, industry, and people. The much less important eastern coastal plain is soon to be linked with the western coastal plain by a transmountain road.

Climate - Taiwan's subtropical location in monsoon Asia is reflected in the annual temperature mean of 73° and heavy average annual rainfall of 84 inches. Natural calamities in the forms of typhoons or tropical storms and occasionally earthquakes frequently cause widespread devastation and destruction of property and crops.

AGRICULTURAL PRODUCTION

Number of farms - 750,000.

Average size of farms - 3 acres; the family provides nearly all labor.

Land tenure - 84 percent of the agricultural land is owner operated. Prior to the initiation of the land reform program in 1949, less than one-half of the land was owner operated.

Table 11.--Principal crops: Acreage and production in Taiwan, 1957

Crop	Acreage	Production
	1,000 acres	1,000 m.t.
Rice (milled)	1,936	1,710
Sweet potatoes	565	2,693
Vegetables	492	705
Peanuts (shelled)	256	62
Sugarcane	246	1/893
Tea	119	15
Soybeans	101	33
Wheat	49	36
Tobacco	10	19

1/ Centrifugal.

Agricultural self-sufficiency - Agricultural exports have a value 2.5 times that of agricultural imports.

Principal crops - Rice and sweetpotatoes.

Livestock industry - Hogs, which accounted for 16 percent of agricultural income in 1957, and poultry dominate Taiwan's livestock industry. Swine production supplements crop production on many farms with hogs subsisting largely on sweetpotatoes. Hogs are dual purpose as they provide much needed animal protein and also produce large quantities of organic fertilizer. The highly diversified poultry industry is sufficiently developed to permit a much higher consumption of poultry and eggs than in much of the remainder of Asia.

Cattle and water buffalo provide most of the draft power. Commercial dairying is practiced only on a very small scale.

Table 12.--Livestock: Number in Taiwan, 1957

Type	Number
	Million
Hogs	2.8
Poultry	11.4
Chickens	6.5
Ducks	3.3
Geese	1.3
Turkeys	.3
Cattle, (incl. water buffalo)	.4

Ratio of input factors - The liberal use of labor on a limited area of land makes the Taiwanese agricultural economy very labor intensive. Capital inputs in the form of fertilizer, pesticides, and elaborate irrigation works make agriculture a capital intensive operation as well.

Irrigation - 63 percent of all crops are either completely or supplementally irrigated. Taiwanese farmers have pioneered in the development and use of "intermittent" irrigation of rice as contrasted with continuous flooding. The "intermittent" system results in a more efficient use of water and higher yields but requires more labor.

Multiple cropping - Multiple and intercropping are both extensively practiced. The planted acreage is approximately double the amount of arable land, thus producing an average of two crops per acre annually.

Mechanization - Although some 2,000 small power tillers are now in use, draft animals still provide nearly all of the power for tillage operations. Pesticide application, threshing, and milling are usually mechanized.

Agricultural institutions - Production, marketing, and credit cooperatives are found in nearly every village. A well-developed extension service patterned after the United States has been instrumental in introducing technological innovations.

Level of productivity - Production per unit of land is very high. High labor inputs, a relatively advanced state of technology, and a year-round tropical climate have enabled Taiwanese farmers to attain high production per unit of land. The annual agricultural export surplus produced on the densely populated island attests to its high levels of productivity.

Index of agricultural production (1952-54 = 100) - Agricultural production for 1959 was 133 percent. On a per capita basis, production increased to 108 percent, or slightly over 1 percent per year.

AGRICULTURAL TRADE

Value of agricultural exports - approximately $130 million annually.

Agricultural share of total exports - approaches 90 percent.

Per capita agricultural exports - $12 per year.

Value of agricultural imports - approximately $55 million annually.

Agricultural share of total imports - 30 percent.

Annual per capita agricultural imports - $5.

Major agricultural export items - In recent years, sugar has accounted for 50 percent or more of total exports, while rice has accounted for an additional 15 percent. Canned pineapple, tea, bananas, and citronella oil are also important exports.

Major agricultural import items - Wheat, cotton, and soybeans account for the bulk of agricultural imports.

Principal agricultural markets - Japan takes nearly one-half of agricultural exports.

Principal sources of agricultural imports - United States is the major supplier of agricultural commodities.

Trade with Bloc countries - None

Role of Public Law 480 - Total shipments through December 31, 1959, amounted to $29.7 million. The amount programmed for the same period amounted to $32 million. Wheat, cotton, and tobacco are major P.L. 480 items.

FOOD CONSUMPTION

Daily per capita calorie consumption - 2,285 (1957); exceeded only by Japan and Malaya in the Far East.

Staple foods - Rice and sweetpotatoes.

Table 13.--Taiwan: Total agricultural trade, 1958

Agricultural exports	Value	Agricultural imports	Value
	Million dollars		Million dollars
Sugar	80.8	Wheat	18.2
Rice	26.4	Cotton, raw	15.8
Pineapple, canned	6.8	Soybeans	9.9
Tea	6.4	Rubber, crude	2.2
Bananas	5.7	Wool	1.9
Citronella oil	3.6	Milk, powder	1.6
Total above	129.7	Jute, raw	1.2
All other commodities	26.1	Hides and skins	1.0
Grand total	155.8	Total above	51.8
		All other commodities	174.4
		Grand total	226.2

The Trade of China, Inspectorate General of Customs, Taipei.

Table 14.--U.S.-Taiwan agricultural trade: Value of imports and exports, 1958

U. S. exports to Taiwan	Value	U. S. imports from Taiwan	Value
	Million dollars		Million dollars
Cotton, excluding linters	17.2	Citronella oil	1.6
Wheat, grain	14.8	Tea	1.6
Soybeans	9.1	Feathers crude	1.2
Tobacco, unmanufactured	2.3	Sugarcane	.4
Tallow, inedible	1.8	Vegetables and preps	.4
Soybean oil, crude	1.3	Bristles	.3
Infants and dietetic foods	.4	Molasses	.3
Cattle hides	.3	Other agricultural	.2
Nonfat dry milk	.1	Total agricultural	6.0
Milk dried whole	.1	Nonagricultural	4.2
Food for relief or charity	4.5	Grand total	10.2
Other agricultural	.5		
Total agricultural	52.4		
Nonagricultural	49.5		
Grand total	101.9		

Nature of diets - Although preponderantly starchy, the Taiwanese diet contains more of the protective foods such as meat, fish, poultry, and eggs than do many Asian diets.

Trends in consumption pattern - As the living standard rises, rice is being substituted for sweetpotatoes. A relatively high income elasticity of demand for pork and poultry is causing the consumption of these items to rise rapidly.

AGRICULTURAL AND TRADE POLICY

Agricultural development - An ambitious 4-year development plan for the years 1957-60 covers nearly all sectors of the economy and provides individual production goals for agricultural and industrial commodities.

Agricultural policy - As additional irrigation becomes available, rice acreage is to increase at the expense of upland crops. Peanut and sugarcane acreage is to be increased as sweetpotatoes concommitantly decrease. The JCRR is working closely with government agencies to promote even greater utilization of fertilizers and pesticides.

Trade policy - The government supports the principle of multilateral trade, but has entered into several bilateral trade agreements. Chief among these is an extensive annually renewable agreement with Japan which calls for the exchange of $80-$90 million worth of goods each year.

POLITICAL SETTING

Type of government - Democratic republic; both the Nationalist Government and the Provincial Government of Taiwan play prominent roles.

Political history - Taiwan was ceded to Japan by China in 1895 after the Sino-Japanese war. Following World War II, Japan renounced all rights to Taiwan and it was returned to China. In 1949, Taiwan became the headquarters of the Nationalist Chinese Government.